Mathematics Arising from Biological Problems

Subject	Illustrative Reference
Age structure of stable populations	Euler 1760
Logistic equation for limited population growth	Verhulst 1838
Branching processes, extinction of family names	Galton 1889
Correlation	Pearson 1903
Markov chains, statistics of language	Markov 1906
Hardy–Weinberg equilibrium in population genetics	Hardy 1908; Weinberg 1908
Analysis of variance, design of agricultural experiments	Fisher 1950
Dynamics of interacting species	Lotka 1925; Volterra 1931
Birth process, birth and death process	Yule 1925; Kendall 1948, 1949
Traveling waves in genetics	Fisher 1937; Kolmogorov et al. 1937
Game theory	von Neumann and Morgenstern 1953
Distribution for estimating bacterial mutation rates	Luria and Delbrück 1943
Morphogenesis	Turing 1952
Diffusion equation for gene frequencies	Kimura 1994
Circular interval graphs, genetic fine structure	Benzer 1959
Threshold functions of random graphs	Erdös and Rényi 1960
Sampling formula for haplotype frequencies	Ewens 1972
Coalescent genealogy of populations	Kingman 1982a, 1982b